

IN THE CLAIMS:

The following is a current listing of claims and will replace all prior versions and listings of claims in the application. Please amend the claims as follows:

1. (Currently Amended) A combined switch and service processor module for a modular computer system, comprising:

a switch portion;

a service processor portion;

a data interface for communicating management information to other parts of the modular computer system;

wherein the service processor portion is ~~operable~~ configured to operate in master/slave relationship with a service processor portion of a further combined switch and service processor module of the modular computer system; and

wherein the service processor portion is further ~~operable~~ configured ~~automatically~~ to automatically synchronise management information with the service processor portion of the further combined switch and service processor via the data interface in accordance with the master/slave relationship.

2. (Original) The combined switch and service processor module of claim 1, further comprising an external data interface for communication with an external management entity.

3. (Original) The combined switch and service processor module of claim 2, wherein only the service processor portion of the combined switch and service processor module configured as master communicates with the external management entity.

4. (Original) The combined switch and service processor module of claim 1, wherein the switch portion operates in a peer to peer relationship with a switch portion of the further combined switch and service processor.

5. (Currently Amended) The combined switch and service processor module of claim 4, wherein the ~~switch~~ service processor portion of one combined switch and service processor

module is configured as a ~~configuration~~ master service processor for the peer to peer relationship.

6. (Currently Amended) The combined switch and service processor module of claim 5, wherein ~~the service processor portion of the combined switch and service processor module having the master service processor switch portion configured as configuration master is operable~~ configured automatically to automatically cause synchronisation of operation parameters of switch portions of further combined switch and service processor modules to the operation parameters of the ~~configuration~~ master switch portion.

7. (Original) The combined switch and service processor module of claim 6, wherein at least one of said further combined switch and service processor modules is located in a modular computer system physically distinct from a modular computer system in which the combined switch and service processor is located.

8. (Original) The combined switch and service processor module of claim 6, wherein the operation parameters include at least one of: read permissions for a data processing entity addressable via the switch portion, write permissions for a data processing entity addressable via the switch and broadcast family groups definitions for data processing entities addressable via the switch portion.

9. (Original) The combined switch and service processor module of claim 1, wherein the switch portion and service processor portion are implemented by separate hardware within the module.

10. (Original) The combined switch and service processor module of claim 1, wherein the switch portion and service processor portion are implemented by common hardware within the module.

11. (Original) The combined switch and service processor module of claim 1, wherein software controlling the functionality of the switch portion and the service processor portion runs on a common operating system.

12. (Currently Amended) The combined switch and service processor module of claim 1, wherein the switch and service processor portions are each ~~operable~~ configured to communicate with the external management entity to obtain a unique address within a computing environment into which the modular computer system is connected.

13. (Currently Amended) The combined switch and service processor module of claim 1, wherein the service processor portion ~~has~~ is configured to a user interface (701) and wherein the service processor portion user interface is operable to receive communications via a user interface and forward communications between the external management entity and the switch portion.

14. (Currently Amended) The combined switch and service processor module of claim 1, wherein the switch and service processor portions ~~elements~~ are each ~~operable~~ configured to create a respective unique identifier using data unique to the respective portion ~~processor~~; and
wherein the service processor portion ~~element~~ is ~~operable~~ configured to supply its the service processor portion's unique identifier to the switch ~~for use by the switch in identifying itself in precedence to the switch's own unique identifier.~~

15. (Currently Amended) The combined switch and service processor module of claim 1, further comprising a fault management unit; and wherein the fault management unit is ~~operable~~ configured to intercept ~~any~~ fault messages generated by the switch portion and the service processor portion and to perform rationalisation processing on ~~those~~ the fault messages to determine whether to forward a given message to the external management entity.

16. (Currently Amended) A ~~modular~~ computer system comprising ~~the combined switch and service processor module of claim 1 removably received therein;~~
a combined switch and service processor module, comprising:

a switch portion;

a service processor portion;

a data interface for communicating management information to other parts of the modular computer system;

wherein the service processor portion is configured to operate in master/slave relationship with a service processor portion of a further combined switch and service processor module of the computer system; and

wherein the service processor portion is further configured to automatically synchronise management information with the service processor portion of the further combined switch and service processor via the data interface in accordance with the master/slave relationship.

17. (Canceled)

18. (Canceled)

19. (Canceled)

20. (Currently Amended) A method of operating a combined switch and service processor module for a modular computer system, the combined switch and service processor module having: a switch portion; a service processor portion; and a data interface for communicating management information to other parts of the modular computer system; the method comprising:

operating the service processor portion in master/slave relationship with a service processor portion of a further combined switch and service processor module of the modular computer system; and

operating the service processor portion ~~automatically~~ to automatically synchronise management information with the service processor portion of the further combined switch and service processor via the data interface in accordance with the master/slave relationship.

21. (Currently Amended) A combined switch and service processor module for a modular computer system, comprising:

a switch portion;

a service processor portion;

a data interface for communicating with an external management entity;

wherein the switch and service processor portions are each ~~operable~~ configured to communicate with the external management entity to obtain a respective unique address within a computing environment into which the modular computer system is connected.

22. (Original) The combined switch and service processor module of claim 21, wherein the unique address is an Internet Protocol address.

23. (Currently Amended) The combined switch and service processor module of claim 21, wherein the switch and service processor portions are configured to use a dynamic host configuration protocol to obtain the unique address.

24. (Currently Amended) The combined switch and service processor module of claim 21, wherein each of the switch and service processor portions is configured to use[[s]] an identifier including a part unique to the modular computer system in which the module is received for obtaining the unique address.

25. (Currently Amended) The combined switch and service processor module of claim 21, wherein the service processor portion is configured to obtain[[s]] the identifier part unique to the modular computer system from an identifier stored in the modular computer system and subsequently pass[[es]] that identifier part to the switch portion.

26. (Currently Amended) The combined switch and service processor module of claim 21, wherein each of the switch and service processor portions is configured to use[[s]] an identifier including a part unique to the combined switch and service processor module for obtaining the unique address.

27. (Currently Amended) The combined switch and service processor module of claim 21, wherein each of the switch and service processor portions is configured to use[[s]] an identifier including a part unique to the respective portion for obtaining the unique address.

28. (Original) The combined switch and service processor module of claim 21, wherein the switch portion and service processor portion are implemented by separate hardware within the module.

29. (Original) The combined switch and service processor module of claim 21, wherein the switch portion and service processor portion are implemented by common hardware within the module.

30. (Currently Amended) The combined switch and service processor module of claim 21, wherein the service processor portion is ~~operable~~ configured to operate in master/slave relationship with a service processor portion of a further combined switch and service processor module of the modular computer system; and

wherein the service processor portion is further ~~operable~~ configured ~~automatically~~ to automatically synchronise management information with the service processor portion of the further combined switch and service processor via the data interface in accordance with the master/slave relationship.

31. (Currently Amended) The combined switch and service processor module of claim 21, wherein the service processor portion is configured to ~~has a user interface (701) and wherein the service processor portion user interface is operable~~ that to receive communications via a user interface and forward communications between the external management entity and the switch portion.

32. (Currently Amended) The combined switch and service processor module of claim 21, wherein the switch and service processor ~~elements~~ portions are each ~~operable~~ configured to create a respective unique identifier using data unique to the respective portion ~~processor~~; and

wherein the service processor ~~element~~ portion is ~~operable~~ configured to supply its the service processor portion's unique identifier to the switch for use by the switch in identifying the service processor itself in precedence to the switch's own unique identifier.

33. (Currently Amended) The combined switch and service processor module of claim 21, further comprising a fault management unit; ~~and wherein the fault management unit is operable~~ configured to intercept ~~any~~ fault messages generated by the switch portion and the service processor portion and to perform rationalisation processing on ~~those~~ the fault messages to determine whether to forward a given message to the external management entity.

34. (Currently Amended) A ~~modular~~ computer system comprising ~~the combined switch and service processor module of claim 21 removably received therein;~~

a combined switch and service processor module, comprising:

a switch portion;

a service processor portion;

a data interface for communicating with an external management entity;

wherein the switch and service processor portions are each configured to communicate with the external management entity to obtain a respective unique address within a computing environment into which the computer system is connected.

35. (Canceled)

36. (Canceled)

37. (Canceled)

38. (Currently Amended) A method of operating a combined switch and service processor module for a modular computer system, the combined switch and service processor module having: a switch portion; a service processor portion; and a data interface for communicating with an external management entity; the method comprising:

operating the switch and service processor portions to communicate with the external management entity to obtain a respective unique address within a computing environment into which the modular computer system is connected.

39. (Currently Amended) A combined switch and service processor module for a modular computer system, comprising:

a switch portion;

a service processor portion ~~having~~ configured to provide a user interface;

a physical data interface for communicating with an external management entity;

wherein the service processor portion ~~user interface~~ is ~~operable~~ configured to receive communications via the user interface ~~to receive~~ and forward communications between the external management entity and the switch portion.

40. (Currently Amended) The combined switch and service processor module of claim 39, wherein the service processor portion is ~~operable~~ configured to perform an authentication operation as part of establishing a communications link with the external management entity.

41. (Original) The combined switch and service processor module of claim 40, wherein the authentication operation can be performed for a communications link between the external management entity and both of the switch and service processor portions.

42. (Currently Amended) The combined switch and service processor module of claim 39, wherein the service processor portion is ~~operable~~ configured to perform a cryptographic operation as part of establishing a communications link with the external management entity.

43. (Original) The combined switch and service processor module of claim 42, wherein the cryptographic operation can be performed for a communications link between the external management entity and both of the switch and service processor portions.

44. (Currently Amended) The combined switch and service processor module of claim 39, wherein the ~~service processor portion~~ user interface is configured to respond as a combined user interface for the service processor portion and switch portion.

45. (Original) The combined switch and service processor module of claim 39, wherein the switch portion and service processor portion are implemented by separate hardware within the module.

46. (Original) The combined switch and service processor module of claim 39, wherein the switch portion and service processor portion are implemented by common hardware within the module.

47. (Currently Amended) The combined switch and service processor module of claim 39, wherein the switch and service processor portions ~~elements~~ are each ~~operable~~ configured to create a respective unique identifier using data unique to the respective portion ~~processor~~; and
wherein the service processor portion ~~element~~ is ~~operable~~ configured to supply its the service processor portion's unique identifier to the switch ~~for use by the switch in identifying itself in precedence to the switch's own unique identifier~~.

48. (Currently Amended) The combined switch and service processor module of claim 39, wherein the service processor portion is ~~operable~~ configured to operate in master/slave relationship with a service processor portion of a further combined switch and service processor module of the modular computer system; and

wherein the service processor portion is further ~~operable~~ configured ~~automatically~~ to automatically synchronise management information with the service processor portion of the further combined switch and service processor via the data interface in accordance with the master/slave relationship

49. (Currently Amended) The combined switch and service processor module of claim 39, wherein the switch and service processor portions are each ~~operable~~ configured to communicate

with the external management entity to obtain a respective unique address within a computing environment into which the modular computer system is connected.

50. (Currently Amended) The combined switch and service processor module of claim 39, further comprising a fault management unit; and wherein the fault management unit is ~~operable~~ configured to intercept ~~any~~ fault messages generated by the switch portion and the service processor portion and to perform rationalisation processing on ~~these~~ the fault messages to determine whether to forward a given message to the external management entity.

51. (Currently Amended) A ~~modular~~ computer system comprising ~~the combined switch and service processor module of claim 39 removably received therein;~~

a combined switch and service processor module, comprising:

a switch portion;

a service processor portion configured to provide a user interface;

a physical data interface for communicating with an external management entity;

wherein the user interface is configured to receive and forward communications between the external management entity and the switch portion.

52. (Canceled)

53. (Canceled)

54. (Canceled)

55. (Currently Amended) A method of operating a combined switch and service processor module for a modular computer system, the combined switch and service processor module comprising: switch portion; a service processor portion configured to provide ~~having~~ a user interface; and a physical data interface for communicating with an external management entity; the method comprising:

~~operating the service processor portion~~ user interface to receive and forward communications between the external management entity and the switch portion.

56. (Currently Amended) A combined switch and service processor module for a modular computer system, comprising:

a switch portion ~~including a switch processor~~;

a service processor portion ~~including a service processor processor~~;

a data interface for communicating with an external management entity;

wherein the switch and service processor portions are each ~~operable~~ configured to create a respective unique identifier using data unique to the respective portion ~~processor~~; and

wherein the service processor portion is ~~operable~~ configured to supply ~~it's~~ the service processor portion's unique identifier to the switch portion for use by the switch portion in identifying the service processor portion ~~itself in precedence to the switch's own unique identifier~~.

57. (Original) The combined switch and service processor module of claim 56, wherein the data unique to the respective portion ~~processor~~ comprises at least one of production data, production time and serial number.

58. (Currently Amended) The combined switch and service processor module of claim 56, wherein the switch portion is ~~operable~~ configured to output ~~its own~~ the switch portion's unique identifier upon receipt of a specific request.

59. (Original) The combined switch and service processor module of claim 56, wherein the unique identifier created by the service processor portion constitutes an identifier for the module.

60. (Currently Amended) The combined switch and service processor module of claim 56, wherein the service processor portion ~~has~~ is configured to provide a user interface ~~and wherein the service processor portion user interface is operable~~ configured to receive and forward communications between the external management entity and the switch portion.

61. (Currently Amended) The combined switch and service processor module of claim 56, wherein the service processor portion is ~~operable~~ configured to operate in master/slave

relationship with a service processor portion of a further combined switch and service processor module of the modular computer system; and

wherein the service processor portion is further ~~operable~~ configured automatically to automatically synchronise management information with the service processor portion of the further combined switch and service processor via the data interface in accordance with the master/slave relationship.

62. (Currently Amended) The combined switch and service processor module of claim 56, wherein the switch and service processor portions are each ~~operable~~ configured to communicate with the external management entity to obtain a respective unique address within a computing environment into which the modular computer system is connected.

63. (Currently Amended) The combined switch and service processor module of claim 56, further comprising a fault management unit; ~~and wherein the fault management unit is operable~~ configured to intercept ~~any~~ fault messages generated by the switch portion and the service processor portion and to perform rationalisation processing on ~~those~~ the fault messages to determine whether to forward a given message to the external management entity.

64. (Currently Amended) A ~~modular~~ computer system comprising ~~the combined switch and service processor module of claim 56 removably received therein;~~

a combined switch and service processor module for a modular computer system, comprising:

a switch portion;

a service processor portion;

a data interface for communicating with an external management entity;

wherein the switch and service processor portions are each configured to create a respective unique identifier using data unique to the respective portion; and

wherein the service processor portion is configured to supply the service processor portion's unique identifier to the switch portion for use by the switch portion in identifying the service processor portion.

65. (Canceled)

66. (Canceled)

67. (Canceled)

68. (Currently Amended) A method of operating a combined switch and service processor module for a modular computer system, the combined switch and service processor module having: a switch ~~portion including a switch processor~~; a service processor ~~portion including a service processor processor~~; and a data interface for communicating with an external management entity; the method comprising:

operating each of the switch and service processor portions to create a respective unique identifier using data unique to the respective ~~portion processor~~; and

operating ~~wherein~~ the service processor portion to supply ~~its~~ the service processor portion's unique identifier to the switch portion for use by the switch portion in identifying the service processor portion ~~itself in precedence to the switch's own unique identifier~~.

69. (Currently Amended) A combined switch and service processor module for a modular computer system, comprising:

a switch portion;

a service processor portion;

a data interface for communicating with an external management entity; and

a fault management unit;

wherein the fault management unit is ~~operable~~ configured to intercept ~~any~~ fault messages generated by the switch portion and the service processor portion and to perform rationalisation processing on ~~these~~ the fault messages to determine whether to forward a given message to the external management entity.

70. (Original) The combined switch and service processor module of claim 69, wherein the fault management unit is implemented within the service processor portion.

71. (Original) The combined switch and service processor module of claim 69, wherein the fault management unit stores details of fault messages received irrespective of whether the message is forwarded to the external management entity.

72. (Currently Amended) The combined switch and service processor module of claim 71[[69]], wherein the stored details of the fault messages includes data describing ~~any~~ an action taken by the originator of the fault message in response to detection of the fault.

73. (Currently Amended) The combined switch and service processor module of claim 71[[69]], wherein the stored details of fault messages are analysed to determine whether any reversal actions are required by the originator of a given fault message when a fault repair is attempted.

74. (Currently Amended) The combined switch and service processor module of claim 69, wherein the rationalisation processing ~~comprises~~ includes analysing a newly received fault message and comparing it to previously received fault messages to determine whether the newly received fault message relates to an already reported fault.

75. (Currently Amended) The combined switch and service processor module of claim 74, wherein the rationalisation processing further comprises not forwarding a fault message relating to a fault already reported to the management entity ~~where no further details of the fault can be ascertained from the not forwarded message.~~

76. (Original) The combined switch and service processor module of claim 69, wherein the switch portion and service processor portion are implemented by separate hardware within the module.

77. (Original) The combined switch and service processor module of claim 69, wherein the switch portion and service processor portion are implemented by common hardware within the module.

78. (Currently Amended) The combined switch and service processor module of claim 69, wherein the service processor portion is ~~operable~~ configured to operate in master/slave relationship with a service processor portion of a further combined switch and service processor module of the modular computer system; and

wherein the service processor portion is further ~~operable~~ configured ~~automatically~~ to automatically synchronise management information with the service processor portion of the further combined switch and service processor via the data interface in accordance with the master/slave relationship

79. (Currently Amended) The combined switch and service processor module of claim 69, wherein the switch and service processor portions are each ~~operable~~ configured to communicate with the external management entity to obtain a unique address within a computing environment into which the modular computer system is connected

80. (Currently Amended) The combined switch and service processor module of claim 69, wherein the service processor portion has a user interface ~~and wherein the service processor portion user interface is~~ ~~operable~~ configured to receive and forward communications between the external management entity and the switch portion.

81. (Currently Amended) The combined switch and service processor module of claim 69, wherein the switch and service processor portions ~~elements~~ are each ~~operable~~ configured to create a unique identifier using data unique to the respective portions ~~processor~~; and

wherein the service processor ~~element~~ portion is ~~operable~~ configured to supply its the service processor portion's unique identifier to the switch ~~for use by the switch in identifying itself in precedence to the switch's own unique identifier.~~

82. (Currently Amended) A ~~modular~~ computer system comprising ~~the combined switch and service processor module of claim 69~~ removably received therein:

a combined switch and service processor module, comprising:

a switch portion;

a service processor portion;

a data interface for communicating with an external management entity; and
a fault management unit;

wherein the fault management unit is configured to intercept fault messages generated by the switch portion and the service processor portion and to perform rationalisation processing on the fault messages to determine whether to forward a given message to the external management entity.

83-85. (Canceled)

86. (Currently Amended) A method of operating a combined switch and service processor module for a modular computer system, the combined ~~ds~~switch and service processor module having: a switch portion; a service processor portion; a data interface for communicating with an external management entity; and a fault management unit; the method comprising:

operating the fault management unit to intercept ~~any~~ fault messages generated by the switch portion and the service processor portion and to perform rationalisation processing on ~~those~~ the fault messages to determine whether to forward a given message to the external management entity.